

Appln. No. 10/708,564
Docket No. 144726/GEM-0102

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REMARKS / ARGUMENTS

Status of Claims

Claims 1-27 are pending in the application. Claims 1-27 stand rejected. Applicant has amended Claims 5 and 17 and added new Claims 28-31 leaving Claims 1-31 for consideration upon entry of the present Amendment.

Applicant respectfully submits that the rejections under 35 U.S.C. §101, 35 U.S.C. §102(b), and 35 U.S.C. §103(a) have been traversed, that no new matter has been entered, and that the application is in condition for allowance.

Office Action Summary Sheet IDS Attachment

Applicant notes that the Examiner has initialed and attached only the IDS submitted on 12/28/2006. In reviewing the instant applications Image File Wrapper, available on PAIR, Applicant notes that the following IDSs are also part of the instant application's IFW: 3/11/2004, 3/15/2004, 9/15/2004, 12/20/2004, 3/17/2006, 6/28/2006, 8/16/2006, and 10/26/2006.

Accordingly, Applicant respectfully requests consideration and acknowledgment of the information provided in aforementioned Information Disclosure Statements.

Claim Objections

Claim 5 is objected to for reasons relating to lack of proper antecedent basis.

Claim 17 is objected to for reasons relating to informalities related to sentence structure.

Regarding Claim 5, Applicant submits that Claim 5 depends from Claim 4, and that Claim 4 recites, *inter alia*, "...so as to generate *interior views*...", which Applicant submits does provide proper antecedent support for "said *interior views*" recited in Claim 5. As such, Applicant respectfully requests the Examiner to reconsider and withdraw this objection, which Applicant considers to be traversed.

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Regarding Claim 17, Applicant has amended Claim 17 as set forth above to overcome this objection. No new matter has been added, as antecedent support can be found in the application as originally filed, such as in the originally filed claims, for example.

Accordingly, Applicant respectfully requests the Examiner to reconsider and withdraw this objection, which Applicant considers to be overcome.

Double Patenting

Claims 1-5 are provisionally rejected under 35 U.S.C. §101 as claiming the same invention of Claims 4, 7, and 8 of copending Application 10/063064. The Examiner appears to acknowledge that the *claims are not identical*, and remarks that the application claim *is merely broader* than the copending Application claim. [paper 20070207, page 2]

Applicant traverses this rejection for the following reasons.

Applicant respectfully submits that in determining whether a statutory basis for a double patenting rejection exists, the question to be asked is: Is the same invention being claimed twice? "Same invention" means *identical* subject matter. MPEP §804 II A citing *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1984); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957). (emphasis added).

A reliable test for double patenting under 35 U.S.C. §101 is whether a claim in the application could be literally infringed without literally infringing a corresponding claim in the patent. *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970). Is there an embodiment of the invention that falls *within the scope of one claim, but not the other?* If there is such an embodiment, then *identical* subject matter is *not* defined by both claims and statutory double patenting would not exist. For example, the invention defined by a claim reciting a compound having a "halogen" substituent *is not identical to or substantively the same* as a claim reciting the same compound except having a

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"chlorine" substituent in place of the halogen *because "halogen" is broader than "chlorine."* (emphasis added) MPEP §804 II A

Accordingly, Applicant respectfully submits that a *merely broader* claim, as alleged by the Examiner, is not the "Same Invention" as required to support a 35 U.S.C. §101 statutory double patenting rejection.

For Example, Applicant finds Claim 1 of copending Application 10/063064 to recite: "A *method of creating 3D models* to be used for cardiac interventional procedure planning...", while Claim 1 of the present claimed invention recites "A *method for planning minimally invasive direct coronary artery bypass (MIDCAB)*..."

Applicant further finds Claim 1 of copending Application 10/063064 to recite: "...creating cardiac image data from the acquisition data using a protocol configured for imaging a cardiac chamber" and "*creating a 3D model of the cardiac chamber* from the cardiac image data", while Claim 1 of the present claimed invention recites "...generating a 3D model of the *coronary arteries and one or more cardiac chambers*..."

In applying the foregoing test for double patenting, Applicant submits that a literal infringement of the copending "creating a 3D model of the cardiac chamber" is not a literal infringement of the claim of "generating a 3D model of the coronary arteries and one or more cardiac chambers" in the present application. Therefore, an embodiment of the invention *falls within the scope of one claim but not the other*, thereby indicating that identical subject matter is not defined by both claims.

Accordingly, Applicant submits that the *merely broader* claim scope alleged by the Examiner of the instant application is not sufficient to fulfill the statutory "Same Invention" requirement of a 35 U.S.C. §101 statutory double patenting rejection.

Additionally, Applicant finds that Claim 1 of the copending application includes limitations not recited in present invention, such as "...inserting three geometric markers...", "...exporting said 3D model..." and "...importing said 3D model...", and that such additional limitations further differentiate Claim 1 of the copending application from Claim 1 of the instant application such that they are not the "Same Invention" as required to support a 35 U.S.C. §101 statutory double patenting rejection.

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Applicant also submits that Claims 2-5 of the instant application and Claims 7 and 8 of the copending application, when considered together with their corresponding parent Claim 1, still fail to define the "same invention".

Accordingly, Applicant submits that for at least the foregoing reasons, *identical* subject matter is *not* defined by both claims and absent identical subject matter, a statutory double patenting rejection is not supported. Applicant therefore submits that the rejection under 35 U.S.C. §101 has been traversed and respectfully requests that the Examiner reconsider and withdraw this rejection.

Rejections Under 35 U.S.C. §102(b)

I. Claims 1, 5 and 6 stand rejected under 35 U.S.C. §102(b) as being anticipated by Chen et al. (U.S. Publication No. 2004/0210125, hereinafter "Chen").

II. Claims 9, 11, 12 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Keidar (European Patent Application EP 1 182 619, hereinafter "Keidar").

At the outset, Applicant notes that Chen, having an October 21, 2004 publication date is not proper 102(b) art against the present application having a file date of March 11, 2004, and believes that the Examiner is relying on the fact that Chen is a continuation of application No. 09/746,992, filed on Dec. 21, 2000, now U.S. Patent No. 6,675,032, which is a continuation of application No. 09/098,159, filed on Jun. 16, 1998, now abandoned, which is a continuation of application No. 08/320,502, filed on Oct. 7, 1994, now U.S. Patent No. 5,765,561, for applying this 102(b) rejection. In the event that any of the priority applications fail to support a 102(b) rejection, Applicant reserves the right to redirect arguments in any manner available under U.S.C. 35.

Notwithstanding the foregoing, Applicant traverses this rejection for the following reasons.

Applicant respectfully submits that "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, *in a single prior art reference.*" *Verdegaal Bros. V. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987) (emphasis added). Moreover, "[t]he

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identical invention must be shown in as complete detail as is contained in the *** claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Furthermore, the single source must disclose all of the claimed elements “arranged as in the claim.” Structural Rubber Prods. Co. v. Park Rubber Co., 749 F.2d 707, 716, 223 U.S.P.Q. 1264, 1271 (Fed. Cir. 1984). Missing elements may not be supplied by the knowledge of one skilled in the art or the disclosure of another reference. Titanium Metals Corp. v. Banner, 778 F.2d 775, 780, 227 U.S.P.Q. 773, 777 (Fed. Cir. 1985).

Dependent claims inherit all of the limitations of the respective parent claim.

I. Regarding Independent Claim 1

Applicant has amended Claim 1 to now recite, *inter alia*,

“...identifying one or more anatomical landmarks on said 3D model and inserting corresponding geometric markers thereat;

registering saved views of said 3D model on an interventional system using said geometric markers; and...”

In comparing Chen with the claimed invention as amended, Applicant finds Chen to disclose:

“...one object of the present invention is to provide a surgical targeting system ***to facilitate locating a particular anatomical structure during a medical procedure.***”

Paragraph [0006] (Emphasis added);

“Another object of the present invention is to provide a video-based surgical targeting system ***to facilitate locating a particular anatomical structure during a medical procedure.***” Paragraph [0007] (Emphasis added).;

“These virtual planning markers 25 can consist of substantially any geometric form such as a point, a line, a circle, a plane, a path (either straight or curved) etc., and are positioned about anatomical structures of particular interest to the physician. For example, virtual planning markers 25 might be ***placed about a suspected tumor, or they might be placed about particularly sensitive anatomical structures such as vascular tissue or nerve bundles, etc.***” Paragraph [0051] (Emphasis added); and

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“...the two images are placed into proper registration with one another. This image registration can be accomplished in either of two ways. A first, and generally more preferable, technique involves holding the position of the video camera 45 (and hence real image 55) constant and *moving the position of the “virtual object” or the “virtual camera”* by means of apparatus 57 until the virtual image 50 is brought into registration with real image 55. This can be done automatically by having image generator 30 use *a search algorithm to match the virtual image to the real image...*” Paragraphs [0060-0061] (Emphasis added).

Here, Applicant finds Chen to disclose virtual planning markers *to facilitate locating a particular anatomical structure during a medical procedure*, and registration of the virtual image with the real image *using a search algorithm to match one image with the other*. Nowhere does Applicant find Chen to disclose or teach identifying one or more *anatomical landmarks on a 3D model, inserting corresponding geometric markers thereat, and registering saved views of the 3D model on an interventional system using the geometric markers*.

While the claimed invention uses geometric markers to accurately register views of a 3D model on an interventional system, Chen uses virtual planning markers to merely *facilitate locating a particular anatomical structure during a medical procedure, and not for registration of any kind*.

In addition to the foregoing, the Examiner remarks that Chen discloses “...generating a 3D model of the region of interest...” and thereby alleges anticipation of the claimed “...generating a 3D model *of the coronary arteries and one or more cardiac chambers* of interest of the patient...”. Instant Office Action, page 3, referencing Chen at Paragraph [0008] (Emphasis added).

Applicant respectfully disagrees that Chen anticipates each and every element of the claimed invention arranged as claimed.

Applicant finds Chen to disclose “...a video-based surgical targeting system which permits a series of patient specific 2-D images...to be assembled into a 3-D computer model of the patient’s scanned structure.” Paragraph [0008].

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In comparing Chen with the claimed invention, Applicant submits that Chen discloses a system to assemble a 3-D image of *patient anatomy in general*, without any disclosure or detail of the claimed "...generating a 3D model of the coronary arteries and one or more cardiac chambers of interest of the patient..."

In view of all of the foregoing, Applicant submits that Chen does not disclose each and every element in as complete detail as is contained in the claim, and absent anticipatory disclosure in Chen of each and every element in as complete detail as is contained in the claim, Chen cannot be anticipatory.

Accordingly, Applicant submits that the Examiner's rejection under 35 U.S.C. §102(b) has been traversed, and respectfully requests that the Examiner reconsider and withdraw this rejection.

II. Regarding Independent Claim 9

To allege anticipation of the claimed "...obtaining acquisition data from a medical imaging system using a *protocol directed toward the coronary arteries and left ventricle*", the Examiner looks to paragraphs [0002] and [0008] of Keidar.

Applicant respectfully disagrees that Keidar anticipates each and every element of the claimed invention arranged as claimed.

Applicant finds Keidar to disclose "...Methods used *for imaging the heart*, for example include..." and "...a position-sensing catheter is used to generate a 3D geometrical map of the *internal surface of a heart chamber* of a subject...". (emphasis added) [Keidar, paragraphs [0002] and [0008]]

In comparing Keidar with the current invention, Applicant submits that Keidar discloses a method to image the heart *generally*, including use of a catheter to map an internal surface of a heart chamber, and is absent any disclosure or detail of the claimed obtaining acquisition data *using a protocol directed toward the coronary arteries and left ventricle*.

Further, to allege anticipation of the claimed "...segmenting said acquisition data using a 3D protocol so as to visualize the *coronary arteries and the left ventricle*...", the Examiner looks to paragraphs [0008] and [0015].

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Applicant finds Keidar to disclose "...a position-sensing catheter is used to generate a 3D geometrical map of the internal surface of a heart chamber of a subject..." and "...mapping an endocardial surface in a ventricle of the heart...". (emphasis added) [Keidar, paragraphs [0008] and [0015]].

In comparing Keidar with the current invention, Applicant submits that Keidar discloses a method to map an internal surface of a heart chamber using a position sensing catheter, without any disclosure or detail of the claimed *segmenting said acquisition data using a 3D protocol* so as to visualize the coronary arteries and the left ventricle.

Additionally, to allege anticipation of the claimed "...identifying from said 3D model, *orientation* and any anomalies *associated with the coronary arteries* and the left ventricle...", the Examiner looks to paragraphs [0008] and [0035].

Applicant finds Keidar to disclose "A 3D *diagnostic image of the heart* is captured in conjunction with generating the 3D map...*diagnostic information* from the image, such as perfusion information, is then *marked on the 3D map...*" and "Fig. 7 is a schematic representation of a colored geometrical map 110...a broad range of different colors is used in map 110 to *describe different levels of perfusion or of other diagnostic qualities*". (emphasis added) [Keidar, paragraphs [0008] and [0035]].

In comparing Keidar with the current invention, Applicant submits that Keidar discloses a method to overlay cardiac image diagnostic information onto a 3D cardiac map collected by a catheter probe, without any disclosure or detail of the claimed identifying *orientation associated with the coronary arteries*.

Accordingly, Applicant submits that Keidar does not disclose each and every element in as complete detail as is contained in the claim, and absent anticipatory disclosure in Keidar of each and every element in as complete detail as is contained in the claim, Keidar cannot be anticipatory.

In addition to all of the foregoing, Applicant has also amended Claim 9 to now recite, *inter alia*,

"...identifying one or more anatomical landmarks on said 3D model and inserting corresponding geometric markers thereat;

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registering saved views of said 3D model on an interventional system using said geometric markers;...“

In alleging anticipation of the claimed “registering”, the Examiner references Keidar at paragraphs [0009; 0015].

Applicant respectfully disagrees that the Keidar “registering” anticipates the claimed “registering”.

At Paragraph [0009] of Keider, Applicant finds Keider to disclose “registering the image with the map, such that each of *a plurality of image points in the image is identified with a corresponding map point in the map*” (emphasis added), which Applicant submits is substantially different from the claimed *identifying of anatomical landmarks, inserting of geometric markers at the landmarks, and registering views of the 3D model on an interventional system using the geometric markers*.

Where Keider discloses registering image points to corresponding map points absent the use of geometric markers at anatomical landmarks, the claimed invention is specifically directed to registration using geometric markers at anatomical landmarks.

In view of all of the foregoing, Applicant submits that Keider does not disclose each and every element in as complete detail as is contained in the claim and therefore cannot be anticipatory. Accordingly, Applicant respectfully submits that the Examiner’s rejection under 35 U.S.C. §102(b) has been traversed, and respectfully requests that the Examiner reconsider and withdraw this rejection.

Rejections Under 35 U.S.C. §103(a)

Claims 2-4 and 8 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Chen in view of Keidar.

Claim 7 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Chen in view of Veseley et al. (U.S. Patent No. 6,246,898, hereinafter “Veseley”).

Claim 10 is rejected under 35 U.S.C. §103(a) as being unpatentable over Keidar in view of Applicant’s Admitted Prior Art (AAPA).

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Claim 13 is rejected under 35 U.S.C. §103(a) as being unpatentable over Keidar in view of Seeley et al. (U.S. Patent No. 6,856,827, hereinafter “Seeley”).

Claim 14 is rejected under 35 U.S.C. §103(a) as being unpatentable over Keidar in view of Veseley.

Claims 16-19 is rejected under 35 U.S.C. §103(a) as being unpatentable over Keidar in view of Hunter et al. (U.S. Publication No. 2004/0097806, hereinafter “Hunter”).

Claim 20 is rejected under 35 U.S.C. §103(a) as being unpatentable over Keidar in view of Hunter, and further in view of Seeley.

Claim 21 is rejected under 35 U.S.C. §103(a) as being unpatentable over Keidar in view of Hunter and Seeley, and further in view of Veseley.

Claims 22-25 and 27 are rejected under 35 U.S.C. §103(a) as being unpatentable over Keidar in view of Shelden et al. (U.S. Patent No. 4,638,798, hereinafter “Shelden”).

Claim 26 is rejected under 35 U.S.C. §103(a) as being unpatentable over Keidar in view of Shelden, and further in view of Seeley.

Applicant traverses these rejections for the following reasons.

Applicant respectfully submits that the obviousness rejection based on the References is improper as the References fail to teach or suggest each and every element of the instant invention in such a manner as to perform as the claimed invention performs. For an obviousness rejection to be proper, the Examiner must meet the burden of establishing a *prima facie* case of obviousness. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). The Examiner must meet the burden of establishing that all elements of the invention are taught or suggested in the prior art. MPEP §2143.03.

Additionally, Applicant respectfully submits that a *prima facie* case of obviousness cannot be supported by a proposed modification that would render the prior art invention being modified unsatisfactory for its intended purpose. *In re Gordon*, 221 USPQ 1125 (Fed. Cir. 1984); MPEP §2143.01.

Dependent claims inherit all of the limitations of the respective parent claim and any intervening claim.

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Regarding Independent Claim 16

Applicant has amended Claim 16 to include "registering" elements similar to those in amended Claims 1 and 9.

The Examiner acknowledges that Keidar is absent a teaching or suggestion of registering and visualizing one or more saved views on a fluoroscopy system, and looks to Hunter to cure the deficiency.

Applicant submits that as set forth above regarding Independent Claim 9, Keidar fails to teach each and every element of the claimed invention as related to the coronary arteries and left ventricle, and as related to the elements of registering. Further, Applicant submits that Hunter teaches "An image guided catheter navigation system...the tracking device tracks the location of the catheter in the region of the patient" [Hunter, Abstract], and is absent any teaching or suggestion to cure these core deficiencies of Keidar relating to the coronary arteries and left ventricle, and relating to registration, and for at least these reasons, the combination of Keidar and Hunter fails to teach or suggest each and every element of the claimed invention arranged in such a manner to perform as the claimed invention performs.

Furthermore, to allege obviousness of the claimed "...segmenting said acquisition data using a 3D protocol so as to visualize the *coronary arteries and the left ventricle, including interior views of the coronary arteries...*", the Examiner looks to paragraphs [0008] and [0015] of Keidar. [page 9 of the current office action]

Applicant finds Keidar to teach "...a position-sensing catheter is used to generate a 3D geometrical map of the *internal surface of a heart chamber* of a subject..." and "...mapping an endocardial surface in *a ventricle* of the heart...". (emphasis added) [Keidar, paragraphs [0008] and [0015]].

In comparing Keidar with the current invention, Applicant submits that Keidar teaches a method to map an *internal surface of a heart chamber*, which is substantially different from the claimed *segmenting said acquisition data using a 3D protocol so as to visualize the coronary arteries and the left ventricle including interior views of the*

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coronary arteries. Further, Applicant submits that modification of Keidar by Hunter fails to cure the deficiency of Keidar.

Accordingly, Applicant respectfully submits that the references fail to teach or suggest each and every element of the claimed invention arranged to perform as the claimed invention performs, and that absent a teaching or suggestion of each and every element of the claimed invention arranged to perform as the claimed invention performs, a *prima facie* case of obviousness cannot be supported.

Regarding Independent Claim 22

The Examiner acknowledges that Keidar is absent a teaching of identifying an incision location and path for MIDCAB based on said quantified distance and location information for said cardiac point of interest, and alleges that Shelden, at col. 13, line 14 to col. 14, line 7, cures the deficiency.

Applicant respectfully disagrees.

Applicant finds Keidar to teach "...an elongate probe, preferably a catheter 30..." and "...a diagnostic imaging unit 48...used to capture a 3D diagnostic image of the heart 24, preferably while user 22 is mapping the heart using catheter 30." [Keidar paragraphs [0019] and [0023]] and Shelden to teach "For three-dimensional displays ...a shaded perspective view is then constructed using laws of perspective and reflectance...Before computing the X, Y and Z coordinates of any desired point to be reached by an invasive process, the computer based analysis may be used to provide an algorithm that *checks and corrects any errors* either in the CT scan control or the CT scan computer indication of the Z axes position of scan sections it obtains and any *possible misalignment* of the plane of the head coordinate ring with the corresponding X, Y, plane of the CT scanner. The ring device described above minimizes any chance for such misalignment" (emphasis added) [Sheldon, col. 13, lines 14-20 and col. 13, line 63 through col. 14, line 4].

In comparing the combination of Keidar and Shelden with the current invention, Applicant submits that the combination discloses a system utilizing a catheter, imaging system, and head coordinate ring to map an interior chamber of a heart, and provides

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shaded three-dimensional perspective views corrected for misalignments of the head coordinate ring to a coordinate system of the imaging system, which is substantially different from the claimed "...*identifying an incision location and path for MIDCAB based on said quantified distance and location information for said cardiac point of interest...*"

Accordingly, Applicant respectfully submits that the references fail to teach or suggest each and every element of the claimed invention arranged to perform as the claimed invention performs, and that absent a teaching or suggestion of each and every element of the claimed invention arranged to perform as the claimed invention performs, a *prima facie* case of obviousness cannot be supported.

Additionally, Applicant claims a system for identifying an incision location and path for minimally invasive direct coronary artery bypass. As stated above, the Examiner acknowledges that Keidar is deficient in teaching the claimed invention, and alleges that "It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Keidar '619 with Shelden et al. '798. The motivation to modify Keidar'619 with Shelden et al. '798 would have been to use the targeted invasive procedure of Shelden et al. '798 to provide therapy to the diseased tissue that is identified by the system of Keidar '619." [Paper 20070207, pages 13-14]

Applicant respectfully disagrees that Shelden cures the deficiencies of Keidar, and submits that Keidar as modified by Shelden will render Keidar unsatisfactory for its intended purpose.

In comparing the modification of Keidar by Shelden with the current invention, Applicant finds Keidar to teach "...*a position sensing catheter* is used to generate a 3D geometrical map of the *internal surface of a heart chamber* of a subject."(emphasis added) [Keidar, paragraph [0008]] and Shelden to teach a "...novel stereotactic method...for the treatment of...*intracranial lesions*...the *stereotactic ring is placed on the patient's head*...in order that *the apparatus to be used for treatment may be connected to it* [stereotactic ring] for *proper orientation and guidance of the apparatus*."(emphasis and clarification added) [Shelden, col. 5, lines 64-66 and col. 6,

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lines 51-63]

Applicant submits that attachment of the catheter taught by Keidar to the stereotactic ring placed on the patient's head for proper orientation and guidance of the catheter (apparatus for treatment of intracranial lesions), as taught by Shelden would render the position sensing catheter unsatisfactory for its intended purpose. (Attachment of a catheter for generating a 3D geometrical map of a heart chamber interior to a stereotactic ring placed on a patient's head disposed for intracranial lesion treatment would no longer serve the purpose of mapping the heart chamber interior).

Accordingly, Applicant submits that Shelden is absent any teaching, suggestion, or motivation to modify Keidar for the purpose of arriving at the claimed invention while maintaining Keidar to be satisfactory for its intended purpose. As such, Applicant submits that the modification of Keidar by Shelden cannot be used to establish a *prima facie* case of obviousness.

In addition to all of the foregoing, Applicant has amended Claim 22 to include "registering" elements similar to those in amended Claims 1 and 9, and submits that Shelden fails to cure the deficiencies of Keidar with respect to the registration using geometric markers.

In view of the foregoing, Applicant submits that the References fail to teach or suggest each and every element of the claimed invention and are therefore wholly inadequate in their teaching of the claimed invention as a whole, fail to motivate one skilled in the art to do what the patent Applicant has done, fail to offer any reasonable expectation of success in combining the References to perform as the claimed invention performs, fail to teach a modification to the prior art that does not render the prior art being modified unsatisfactory for its intended purpose, and discloses a substantially different invention from the claimed invention and therefore cannot properly be used to establish a *prima facie* case of obviousness. Accordingly, Applicant respectfully requests reconsideration and withdrawal of all rejections under 35 U.S.C. §103(a), which Applicant considers to be traversed.

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In light of the forgoing, Applicant respectfully submits that the Examiner's rejections under 35 U.S.C. §101, 35 U.S.C. §102(b), and 35 U.S.C. §103(a) have been traversed and respectfully requests that the Examiner reconsider and withdraw these rejections.

Regarding New Claims 28-31

Applicant has added new Claims 28 through 31, which depend from Claims 1, 9, 16 and 22 respectively, to now claim disclosed but previously unclaimed subject matter. No new matter has been added as antecedent support may be found in the application as originally filed, such as at Paragraphs [0016], [0026] and [0030] for example.

In view of the remarks set forth above regarding the allowability of Claims 1, 9, 16 and 22, Applicant submits that new Claims 28-31 are directed to allowable subject matter and respectfully requests entry and notice of allowance thereof.

If a communication with Applicant's Attorneys would assist in advancing this case to allowance, the Examiner is cordially invited to contact the undersigned so that any such issues may be promptly resolved.

The Commissioner is hereby authorized to charge any additional fees that may be required for this amendment, or credit any overpayment, to Deposit Account No. 07-0845.

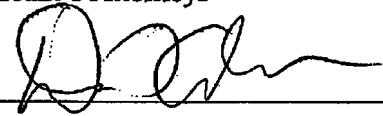
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In the event that an extension of time is required, or may be required in addition to that requested in a petition for extension of time, the Commissioner is requested to grant a petition for that extension of time that is required to make this response timely and is hereby authorized to charge any fee for such an extension of time or credit any overpayment for an extension of time to the above-identified Deposit Account.

Respectfully submitted,

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